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# THE MUSICAL TIMES, And Singing Class Circular.

NOVEMBER 1st, 1860.

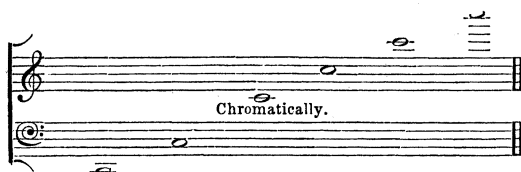
## NEW INSTRUMENTS,

By HECTOR BERLIOZ.\*

### THE MELODIUM ORGAN.

THIS instrument has a key-board like the organ, built with pipes. Its sound results—like that of the concertina,—from the vibration of free metallic reeds, over which passes a current of air. This current of air is produced by a bellows, put in motion by the feet of the performer; and according to the mode in which the feet act upon this blowing mechanism, in certain conditions wherein the instrument may be placed, the sounds acquire more or less intensity.

The melodium organ thus possesses crescendo and diminuendo; it is *expressive*. Hence the name of "Register of Expression," given to the particular mechanism it possesses. The fingering of the key-board is the same as that of the organ key-board. It is written on two lines, and even on three; like the organ. Its compass is five octaves:—



This compass, however, is not limited to the above, for melodiums with more than one stop. The number of stops is very variable. The most simple melodium—the one with a single stop, of which we have just shown the compass,—contains two different qualities of tone; the quality of tone of the *corno inglese* for the left half of the key-board, and that of the flute for the right half.

The others,—according to the will of the maker,—may have, by different combinations, bassoon, clarion, flute, clarinet, fife, and hautboy stops (so called, on account of the analogy which then exists between the quality of tone of the melodium, and that of those instruments); and moreover, the *Grand* stop, the *Forte*, and the *Expressive*. These stops give to the melodium a compass of seven octaves, although its key-board has only five.

They are placed at the command of the performer by means of a mechanism like that of the organ, placed on each side of the body of the

instrument, and put in action by drawing forward a wooden handle with either hand.

Some other stops are obtained by a similar mechanism, placed beneath the body of the instrument, and which are moved by pressure from left to right, and from right to left, with the knee of the performer. This mechanism constitutes what is called "the register."

The melodium does not possess the moveable stops of the organ, the effect of which excites in many people a traditional admiration; but which, in reality, have a horrible tendency to noise; it has only double or single octave stops, by means of which each key makes speak, with its note, the octave and the double octave of this note, or the double octave without the single, or even the upper octave and the lower octave of this note at the same time.

Many ignorant players and lovers of noise, make deplorable use of these octave stops. Thence results also a barbarism, less, it is true, than that of the movable stops of the organ, which give to each note the simultaneous sound of the two other notes of the major common chord, that is to say, of its major third, and of its fifth; but still an actual barbarism, because,—besides the harmonic thickening produced,—it necessarily introduces into the harmony the most frightful disorder, by the inevitable inversion and spreading of the chords; since ninths thus produce seconds and sevenths: seconds, sevenths and ninths; fifths, fourths; fourths, fifths, &c.; and because, in order to remain in true musical condition with such stops, it would be needful to use them only in pieces written in *counterpoint invertable in octave*,—which is not done.

It is to the ignorance of the middle ages, groping blindly for laws of harmony, that we must doubtless attribute the introduction of these monstrosities into organs; which mere custom has preserved and transmitted to us, and which we must hope will by degrees disappear.

The sounds of the melodium being of rather slow omission, like the sounds of the organ with pipes, render it better adapted to the *legato* style than to any other; and peculiarly suitable to sacred music, to soft and tender melodies, of slow movement.

Pieces of a skipping, petulant, or violent character, executed on the melodium, will always attest—in my opinion—the bad taste of the performer, the ignorance of the composer, or the bad taste and ignorance of both.

To impart to the sounds of the melodium a religious and dreamy character,—to render them susceptible of all the inflexions of the human voice, and of the majority of instruments—such is the object M. Alexandre has both proposed and accomplished.

The melodium is at once a Church instrument, and a Theatre instrument; a drawing-room, and

\* Reprinted from *Berlioz on Modern Instrumentation and Orchestration* (by permission).

a concert-room instrument. It occupies but little space; and it is portable. It is therefore a servant of indisputable utility for composers and amateurs. Since Messrs. Meyerbeer, Halevy, Verdi, have employed the organ in their dramatic works, how many provincial theatres in France, and even Germany, not possessing organs, have found difficulty in executing these works: and to how many mutilations and re-arrangements (more or less clumsy) of scores, this absence of organs has given rise! The directors of these theatres would now be inexcusable to tolerate such misdeeds; since, for a very moderate sum, they may have—in lieu of an organ with pipes—a melodium organ very nearly sufficing to replace it.

The same thing applies to small churches, where music hitherto has not been possible. A melodium, played by a musician of good sense, might and could introduce there harmonic civilization; and cause, in time, a banishment of those grotesque howlings which still, in such places, mingle with religious service.

#### PIANOS AND MELODIUMS WITH PROLONGED SOUND.

The *prolongation of sound* is the most important recent musical invention that has been brought into key-boarded instruments. This invention, applied now-a-days to pianos and melodium organs, gives the player the power of sustaining for an indefinite time, by a simple movement of his knee, a note, a chord, or an arpeggio, in all the compass of the key-board, after his fingers have ceased to press the keys. And during this steady sustaining of a larger or less number of notes, the player, having his hands at liberty, can not only strike and make speak other notes which make no part of the sustained chord, but also the prolonged notes themselves. It will at once be perceived to what a multitude of various and charming combinations this invention affords scope on the melodium organ and piano. They are absolute orchestral effects: and of the nature of those which are produced when the stringed instruments execute four or five parts diversely designed amidst a sustained harmony of the wind instruments (flutes, hautboys, and clarinets); or, better still, like those which result from a piece in several parts, played by wind instruments, during a harmonious holding-on of *divided violins*; or when the harmony and the melody are moving above or below a pedal point.

Moreover, the effect of prolongation may take place with different degrees of intensity, on the melodium; according as the *Forte*-register which is appended to it be opened or shut.

Two *knee-pieces* are placed beneath the key-board in such a way as to be readily put in action by a touch of the player's knees. The one,—the right,—produces the prolongation of the sounds on the right half of the key-board; the other prolongs them on the other half. In order to prolong the sound, the key should be put down

at the same time that the knee-piece is pressed. Thus:—



if it be wished to stop the sustaining of the sounds, a second pressure of the knee stops it immediately; thus—



But if this fresh pressure on the knee-piece stop the effect of prolongation produced by the preceding pressure, it is also immediately replaced by a fresh effect, if one or more fresh keys be struck at the same time; thus:—



If it be wished, after a brief chord, to produce the prolongation of a single note of this chord, the movement of the knee must be made only after quitting the keys corresponding with the sounds that are not desired to be held on, but while the finger still presses the key of the note wished to be sustained; after which, the hand becomes entirely free. A similar series of movements is made for changing the notes held on; besides another supplementary movement, while the finger still puts down the key of that note desired to be sustained, for stopping the prolongation of those notes of the chord not required to be held on:



This applies indifferently to both knee-pieces, —whether for the piano or for the melodium.

It is necessary, in writing for the piano or organ melodium with prolonged sounds, to employ at least three lines, and often four; reserving, in this latter case, the upper line for the high or intermediate sustained notes, and the lower line for the low sustained-notes. The two middle lines then remain for the parts executed by the two hands:—

The image displays three systems of musical notation, each labeled "Prolongation." on the left. Each system consists of a piano (p) staff and a violin (v) staff, both in 3/8 time.

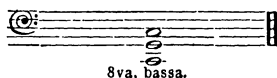
- System 1:** The piano staff has a treble clef and a key signature of one flat (B-flat). The violin staff has a treble clef and a key signature of one flat. The piano part features a melodic line with eighth and sixteenth notes. The violin part provides harmonic support with chords and sustained notes. Performance instructions include "Left knee." and "Right knee." with a finger number "1" above the first measure.
- System 2:** The piano staff has a treble clef and a key signature of two flats (B-flat and E-flat). The violin staff has a treble clef and a key signature of two flats. The piano part features a melodic line with eighth and sixteenth notes. The violin part provides harmonic support with chords and sustained notes. Performance instructions include "Right knee." with a finger number "1" above the first measure.
- System 3:** The piano staff has a treble clef and a key signature of two flats. The violin staff has a treble clef and a key signature of two flats. The piano part features a melodic line with eighth and sixteenth notes. The violin part provides harmonic support with chords and sustained notes. Performance instructions include "Right knee." and "Left knee." with a finger number "1" above the first measure.

## THE OCTO-BASS.

M. Vuillaume, a musical instrument maker of Paris, whose excellent violins are so much esteemed, has just enriched the family of stringed instruments by a fine and powerful member,—the octo-bass.

This instrument is not—as many imagine—the low octave of the double-bass; it is but the low octave of the violoncello. It consequently descends lower—by a third—than the four-stringed double-bass.

It has only three strings, tuned in fifth and fourth :

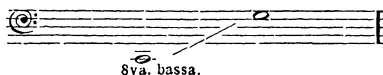


The left-hand fingers of the player not being sufficiently long, nor sufficiently strong, to act fitly on the strings (for the octo-bass is of colossal dimension), Mr. Vuillaume has contrived a set of moveable keys, which, pressing the strings with energy, bring them on to frets placed on the neck of the instrument, for producing the tones and semitones. These keys are moved by levers, which the left hand seizes and draws up and down

behind the neck of the instrument: and by seven other pedal-keys, upon which the foot of the player acts.

It suffices to say that the octo-bass cannot execute any rapid succession; and that it must have assigned to it a special part, differing in many respects from the double-bass part. Its compass is an octave and a fifth only:

**Chromatically.**



This instrument has sounds of remarkable power and beauty,—full and strong, without roughness. It would be of admirable effect in a large orchestra; and all Festival orchestras, where the number of the instrumentalists amounts to more than 150, should have at least three.

We shall not here contest the opinion that tends to consider the recent inventions of instrument-makers as fatal to Musical Art. These inventions exercise, in their sphere, the same influence that all marches of civilization exercise; the abuse that may be made of them,—that even which indisputably is made—proves nothing against their value.